



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,448	06/10/2005	Thomas Netsch	PHDE020303US	3792
38107	7590	10/06/2008	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			LEACH, CRYSTAL I	
595 MINER ROAD				
CLEVELAND, OH 44143			ART UNIT	PAPER NUMBER
			3737	
			MAIL DATE	DELIVERY MODE
			10/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,448	NETSCH ET AL.	
	Examiner	Art Unit	
	CRYSTAL I. LEACH	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 June 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-6 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 10 June 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/10/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statements (IDS) submitted on June 10, 2005 is in compliance with 37 CFR 1.97 and 1.98. The references therein have been considered.

Claim Objections

2. Claims 3 and 5 are objected to because of the following informalities:

On line 4 of claim 3, "by," needs to be removed.

On line 14 of claim 5, "date" needs to be changed to --data--.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 5 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 5 directly claims a computer program, which is considered to be non-statutory subject matter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Murphy et al. (5,901,199).

6. Regarding claims 1-3, 5 and 6 Murphy et al. teach a method of tomographic imaging, and particularly a CT or MR method (see abstract), for repetitively producing diagnostic slice images of a part of a patient's body, having the following method steps:
a) making of current reference slice images of the part of the body, b) determination of a geometrical transformation by which the current reference slice images are brought into agreement with earlier reference slice images of the part of the body, c) calculation of current imaging parameters-by transforming earlier imaging parameters by means of the geometrical transformation determined in step b), d) making of a current diagnostic slice image, the position and orientation in three dimensions of the image plane of the diagnostic slice image being determined by the current imaging parameters calculated in step c), wherein there are made in step a) of the method at least two current reference slice images whose image planes are preset in such a way that their relative positions and orientations in three dimensions agree with the relative positions and orientations in three dimensions of the earlier reference slice images, and in that the geometrical transformation is determined in step b) in such a way that, by it, all the current reference slice images are brought into agreement with the corresponding earlier reference slice images simultaneously (see fig. 1-4, 8 and 9 and col. 4, l. 20 – col. 5, l. 10).

Regarding claim 2, Murphy et al. teach that the geometrical transformation is determined in step b) of the method by identifying reference points in the current

reference slice images that agree with corresponding reference points in the earlier reference slice images (see col. 5, l. 11-31).

Regarding claim 3, Murphy et al. teach that the geometrical transformation determined in step b) of the method is a rigid or an affine transformation that is defined by a set of transformation parameters, the set of transformation parameters being determined automatically by means of a suitable algorithm, optimizing a measure of similarity that represents the similarity of the current reference slice images to the corresponding earlier ones (see col. 5, l. 32 – col. 6, l. 29).

Regarding claim 6, Murphy et al. teach a tomographic imaging unit (see fig. 3) having image-making means that make diagnostic slice images, and having a computer that is capable of operating the image-making means and for this purpose calculates imaging parameters that determine the particular positions and orientations in three dimensions of the image planes of the diagnostic slice images (see col. 4, l. 20 – col. 6, l. 29).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. (5,901,199).

Murphy et al. do not explicitly teach that a plurality of parallel reference slice images are made in each of the head-foot, anterior-posterior and right-left directions in step b) of the method, the image resolution being selected to be higher in the image planes than perpendicularly thereto. Murphy et al. do not explicitly teach a computer program for performing the method of claim 1 of the instant application. However, it would be obvious to one of ordinary skill in the art to automate a manual activity (see MPEP 2144.04, III) by enabling the computer system of Murphy et al. to control the functionality of the apparatus of Murphy et al. via a computer programmable medium stored on a computer.

It would be obvious that the system of Murphy et al. is capable of making a plurality of parallel reference slice images in any each of the head-foot, anterior-posterior and right-left directions since the invention of Murphy et al. performs image registration utilizing images which can be altered in six degrees of freedom (see col. 4, l. 20-37, 57-67 or col. 6, l. 15-28).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van Muiswinkel et al. (US 2002/0198447) teach automatic prescription of tomographic imaging parameters and Grimson et al. (5,531,520) teach a system and method of registration of three dimensional data sets including anatomical body data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRYSTAL I. LEACH whose telephone number is (571)272-5211. The examiner can normally be reached on Monday through Friday, 8 am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art
Unit 3737

/Crystal I Leach/
Examiner, Art Unit 3737